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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,515	03/28/2001	Daniel J. Ragland	42390P11079	6096

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EXAMINER

THAI, XUAN MARIAN

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 12/19/2003

2

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,515

Applicant(s)

RAGLAND, DANIEL J.

Examiner

XUAN M. THAI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This is in response to communication filed on March 28, 2001. Claims 1-28 are presented for examination.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "registers" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by Tang et al. (USPN 6,298,370; hereinafter Tang).

5. As per claim 6, Tang discloses a system comprising: a processor (CPU 106); a memory (114 or 110) coupled to the processor; a northbridge (108) coupled to a bus (PCI 124) and the

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processor (fig. 1; 4, 5, 6); south bridge (134) coupled to the bus; and a USB (USP Smarthub 136) bandwidth load balancing circuit (col. 31, lines 26-35).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tang et al. (USPN 6,298,370; hereinafter Tang) in view of DeJager et al. (USPN 6,473,424; DeJager)

As per claims 7-10, and 12, Tang discloses a system comprising a load balancing system as detailed in claim 6 above. Tang is silent as to using registers and switches coupled to a plurality of data transmission ports. DeJager discloses that it is known in the data transmission art to provide switches and registers (queues mark registers) in a load balancing system for routing data through a plurality of ports for providing a load balanced system (Abstract; col. 7, lines 3+ to col. 9, lines 1-16). It would have been obvious to one of ordinary skill in the art to incorporate the teachings as taught by DeJager into the system as taught by Tang for providing a balanced transmission system.

As per claim 11, DeJager discloses that the load balancing is dynamic (col. 7, lines 45-58).

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8. Claims 1-5 and 13-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gokulrangan (USPN 6,658,512) in view of Wong et al. (USPN 6,363,077; hereinafter Wong).

As per claims 1-2, 4, 13-15, 19-23, and 27, Gokulrangan discloses a USB system comprising a load balancing for attaching devices to a plurality of hubs (Fig. 1; col. 3, lines 31-50) based on bandwidth allocation to USB devices. Gokulrangan is silent as to using registers and switches coupled to a plurality of data transmission ports.

Wong discloses that it is known in the data transmission art to provide switches and registers (buffering) in a load balancing system for routing data through a plurality of ports for providing a load balanced system (Abstract). It would have been obvious to one of ordinary skill in the art to incorporate the teachings as taught by Wong into the system as taught by Gokulrangan for providing a balanced transmission system.

As per claims 3, 17, and 25, USB device descriptors are within the teachings of Gokulrangan as provided for in the USB Specification 1.0 and 2.0.

As per claims 5, 18, 26 and 28, dynamic load balancing is taught in both Gokulrangan and Wong.

As per claims 16 and 24, low and high bandwidth classes of devices are within the teachings of Gokulrangan as provided in the USB Specification 1.0 and 2.0.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references are cited in the Form PTO-892 for the applicant's review.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to XUAN M. THAI whose telephone number is 703-308-2064. The examiner can normally be reached on Monday to Friday from 8:30 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



XUAN M. THAI
Primary Examiner
Art Unit 2181

XMT
December 15, 2003